

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 January 2004 (29.01.2004)

PCT

(10) International Publication Number
WO 2004/008959 A1

(51) International Patent Classification⁷: **A61B 5/053**,
A61N 1/368

(21) International Application Number:
PCT/SE2003/001081

(22) International Filing Date: 23 June 2003 (23.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0202289-5 22 July 2002 (22.07.2002) SE

(71) Applicant (for all designated States except US): **ST JUDE MEDICAL AB** [SE/SE]; Veddestavägen 19, S-175 84 Järfälla (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HOLMSTRÖM**, Nils [SE/SE]; Pärönvägen 4A, S-175 49 Järfälla (SE). **OBEL**, Martin [SE/SE]; Bergavägen 5, S-182 33 Danderyd (SE). **NORLIN**, Anna [SE/SE]; Valhallvägen 47,

4tr, S-114 22 Stockholm (SE). **DAHLBERG**, Kenneth [SE/SE]; Kungsholmsstrand 25, 5tr, S-112 26 Stockholm (SE). **BJÖRLING**, Anders [SE/SE]; Handbollvägen 24G, S-175 53 Järfälla (SE). **KALLING**, Sven [SE/SE]; Lyckostigen 9, S-183 56 Täby (SE). **LJUNGSTRÖM**, Karin [SE/SE]; Albert Landbergsgr. 34, S-165 70 Hässelby (SE). **NORÉN**, Kjell [SE/SE]; Karolinagatan 10C, nb, S-171 58 Solna (SE).

(74) Common Representative: **ST JUDE MEDICAL AB**; Patent Department, Veddestavägen 19, S-175 84 Järfälla (SE).

(81) Designated State (national): **US**.

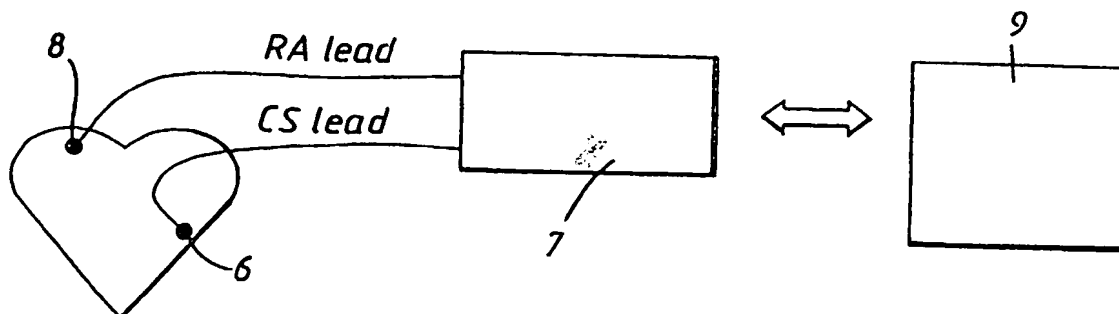
(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A CONGESTIVE HEART FAILURE MONITOR



(57) Abstract: A congestive heart failure monitor comprises an impedance measuring unit to measure the impedance between at least two electrodes intended to be implanted in a patient such that a change in the left atrium volume results in a change of the measured impedance. Analysing means are provided for analysing the measured impedance for detecting an incipient congestive heart failure.